

EMBIEN10.1 General Courses

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Medical Imaging	<i>Stefaan Vandenberghe TW06</i>	6		1	1		50	180
2	Biomaterials and Tissue Engineering	<i>Peter Dubruel WE07</i>	5		1	1		60	150
3	Neuro-engineering Science	<i>Pieter van Mierlo TW06</i>	3		1	1		25	90
4	Micro- and Nanotechnologies for Medical Device Design and Fabrication	<i>Maaïke Op de Beeck TW06</i>	5		1	1		37.5	140
5	Artificial Organs	<i>Thierry Bové GE38</i>	5		1	1		67.5	150
6	Biomedical Product Development	<i>Ewout Vansteenkiste WE05</i>	6		1	J		30	180
7	Medical Equipment, Safety and Regulations	<i>Sunny Eloot GE35</i>	5		1	2		60	150
8	Data Analytics in Healthcare and Connected Care	<i>Sofie Van Hoecke TW19</i>	6		1	2		60	180
9	Biomedical Robotics and Assistive Technologies	<i>Joost Geeroms VUB</i>	5		1	2		54	150
10	Clinical Study Design and Biostatistics	<i>Barbara Vanderstraeten GE38</i>	3		2	1		25	90
11	Hospital Project	<i>Pascal Verdonck TW06</i>	5		2	1		45	150
12	Leadership in Health Care	<i>Pascal Verdonck TW06</i>	3		2	2		22.5	90
13	Health Information and Decision Support Systems	<i>Jef Vandemeulebroucke VUB</i>	3		2	2		31.5	90

EMBIEN10.2 Elective Courses

Subscribe to 6 credit units from the following list. Subject to approval by the faculty.

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Computational Bio-Fluid Mechanics	<i>Charlotte Debbaut TW06</i>	6		1	2		45	180
2	Computational Tissue and Structure Mechanics	<i>Nele Famaey TW06</i>	6		1	2		45	180
3	Computational Neurophysiology	<i>Sarah Verhulst TW05</i>	6		1	2		60	180

EMBIEN10.3 Elective Courses

Subscribe to 30 credit units from no less than 1 and no more than 6 modules from the following list. Subject to approval by the faculty.

- 8 credit units in year 1
- 22 credit units in year 2

EMBIEN10.3.1 Elective Courses Biomedical Engineering

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Internship 1 [en, nl]	<i>Patrick Segers TW06</i>	3				A:11, B:	7.5	90
2	Internship 2 [en, nl]	<i>Patrick Segers TW06</i>	3				A:11, B:	7.5	90
3	Internship 3 [en, nl]	<i>Patrick Segers TW06</i>	6				A:11, B:	7.5	180
4	International Internship 1	<i>Patrick Segers TW06</i>	3				A:11, B:	7.5	90
5	International Internship 2	<i>Patrick Segers TW06</i>	3				A:11, B:	7.5	90
6	International Internship 3	<i>Patrick Segers TW06</i>	6				A:11, B:	7.5	180
7	Modeling in Medicine and Biomedical Engineering: Case Studies	<i>Patrick Segers TW06</i>	3		1			30	90
8	Bioelectromagnetism	<i>Wout Joseph TW05</i>	4			2		45	120

9	Manufacturing Planning and Control	<i>Birger Raa TW18</i>	6	1	60	180
10	Ethics, Engineering and Society [nl]	<i>Guido Pennings LW01</i>	3	2	15	90
11	Artificial Intelligence	<i>Aleksandra Pizurica TW07</i>	6	1	52.5	180
12	Wave Physics in Living Matter	<i>Wout Joseph TW05</i>	6	2	45	180
13	Scientific and Clinical Applications of Magnetic Nanoparticles	<i>Annelies Coene TW08</i>	3	2	30	90

EMBIEN10.3.2 Elective Courses Neuro-engineering

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Advanced Image and Signal Processing	<i>Stefaan Vandenbergh</i> TW06	3			1	25	90	
2	Nuclear Magnetic Resonance Imaging Technology	<i>Roel Van Holen</i> TW06	3			2	30.5	90	
3	Neuro-physiological Signal Processing and Network Analysis	<i>Guy Nagels</i> VUB	4			2	50	120	
4	Translational Neuroscience	<i>Christian Vanhove</i> TW06	3			2	30	90	
5	Neural Interfaces, Neuromodulation and Minimally Invasive Neurotechnology	<i>Vincent Keereman</i> TW06	3			2	30	90	
6	Auditory Computation, Modelling and Devices	<i>Sarah Verhulst</i> TW05	3			2	25	90	
7	Contrast Agents and Biomarkers for Imaging and Therapy	<i>Christian Vanhove</i> TW06	3			1	30	90	
8	Computational Neurophysiology	<i>Sarah Verhulst</i> TW05	6			2	60	180	

EMBIEN10.3.3 Elective Courses Biomechanics and Biomaterials

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Computational Bio-Fluid Mechanics	<i>Charlotte Debbaut</i> TW06	6			2	45	180	
2	Computational Tissue and Structure Mechanics	<i>Nele Famaey</i> TW06	6			2	45	180	
3	Physics and Chemistry of Nanostructures	<i>Zeger Hens</i> WE06	6			2	52.5	180	
4	Tissue Engineering		6			1	45	180	
5	Plasma Technology for Biomedical Applications	<i>Nathalie De Geyter</i> TW17	6			1	40	180	

EMBIEN10.3.4 Elective Courses Sensors and Medical Devices

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Microphotonics	<i>Roel Baets</i> TW05	6			1	60	180	
2	Biophotonics	<i>Nicolas Le Thomas</i> TW05	4			1	30	120	
3	Sensors and Actuators	<i>Herbert De Smet</i> TW06	6			2	45	180	
4	Photonics [nl]	<i>Roel Baets</i> TW05	6			2	60	180	
5	Technological Processes for Photonics and Electronics		4			J	50	120	
6	Biomedical Devices: Sensors, Stimulators and Drug Delivery	<i>Johan Stiens</i> TW	4			2	46	120	
7	Control of Drug-delivery Systems	<i>Clara-Mihaela Ionescu</i> TW08	4			2	46	120	

EMBIEN10.3.5 Elective Courses Radiation Physics

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Measurement Techniques in Nuclear Science	<i>Freya Blekman</i> VUB	3			2	22.5	90	
2	Nuclear Physics	<i>Michel Sonck</i> VUB	3			2	30	90	
3	Nuclear Reactors and Cyclotrons	<i>Michel Sonck</i> VUB	3			1	22.5	90	
4	Technology of Radiotherapy	<i>Carlos De Wagter</i> GE38	3			1	30	90	
5	Medical Dosimetry	<i>Nico Buls</i> VUB	3			1	37.5	90	
6	Radiologic Techniques	<i>Roel Van Holen</i> TW06	3			1	22.5	90	
7	Radioprotection and Regulations [nl]	<i>Michel Sonck</i> VUB	3			2	25	90	
8	Radiochemistry [nl]	<i>Filip De Vos</i> FW02	3			2	25	90	
9	Radiobiology and Radiopathology	<i>Marc Van Eijkeren</i> GE38	3			2	15	90	

EMBIEN10.3.6 Elective Courses Ghent University or VUB

Subscribe to no more than 30 credit units from Elective Courses Ghent University or VUB. Subject to approval by the faculty.
See www.ugent.be/ea/bme/en

EMBIEN10.4 Master's Dissertation

No.	Course name	Lecturer (dept.)	CRDT	Ref	MT1	MT2	Semester	Contact	Study
1	Master's Dissertation		24		2		J	60	720

Teaching languages

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the course name, using the following ISO codes:

bg: Bulgarian de: German es: Spanish ja: Japanese pl: Polish sh: Croatian/Serbian zh: Chinese
cs: Czech el: Greek fr: French nl: Dutch pt: Portuguese sl: Slovene
da: Danish en: English it: Italian no: Norwegian ru: Russian sv: Swedish

Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2. When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.

When a semester is shown in brackets, the course is not offered this year in the specific offering.

The offering frequency and first year of offering are indicated by the following codes:

a: bi-annually c: annually, from 2021-2022 f: annually, from 2022-2023 i: annually, from 2023-2024
b: tri-annually d: bi-annually, from 2021-2022 g: bi-annually, from 2022-2023 j: bi-annually, from 2023-2024
e: tri-annually, from 2021-2022 h: tri-annually, from 2022-2023 k: tri-annually, from 2023-2024